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## Current Support Brief

FIRST STAGE OF CEMA UNIFIED ELECTRIC  
POWER NETWORK COMPLETED



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C-O-N-F-I-D-E-N-T-I-A-L

FIRST STAGE OF CEMA UNIFIED ELECTRIC  
POWER NETWORK COMPLETED

In the latter half of July 1962 the Soviet Bloc completed the first stage in the creation of an East European unified electric power network by uniting the West Ukrainian power system of the USSR with the interconnected power systems of Czechoslovakia, East Germany, Hungary, and Poland, which had been joined in 1960. Concurrently a Central Dispatch Administration for the unified electric power network was established in Prague. The power systems of Bulgaria and Rumania are to be connected to the network by 1964, thereby creating a unified electric power system for all the European CEMA countries except Albania.

On 16 July 1962 the first electric power was sent over a new 220-kilovolt (kv) power transmission line from the substation at Mukachevo in the Western Ukraine to Sajoszoged in Hungary. This line is an extension of a double 220-kv line from the Dobrotvor Thermal Powerplant in the USSR. At the Hungarian terminal the line connects with existing 220-kv networks that unite power systems in Hungary, Czechoslovakia, Poland, and East Germany. 1/ (See the accompanying map) The unified network is to be extended and strengthened in 1963 by the completion of a 400-kv line from the Ludus Thermal Powerplant in Rumania that will pass through the Mukachevo substation to Lemesany in eastern Czechoslovakia. From Lemesany the line will extend through the length of the country to Vyskov in the west. The network is planned to be completed in 1964 by the completion of a high-voltage line from Craiova in Rumania to Boychinovtsi in Bulgaria, thus linking the Bulgarian power system to the unified system. Further connections of the USSR to the unified network will be created in 1963 by a 220-kv line from Bialystok in Poland to the Ross substation in Belorussia and, at some later date, by another line from the USSR through Rumania to Bulgaria. 2/

Unification of the national power systems of Eastern Europe will enable nations with power surpluses to export electricity to countries with an inadequate supply. Most of the electric power feeding the international network will come from powerplants in the USSR and Rumania that will burn natural gas. The

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power will therefore be less expensive than local generation based on coal. In 1965, power will be furnished to the network by country as follows 3/:

<u>Exports from:</u>	<u>Imports by:</u>	<u>Amount (Million Kilowatt Hours)</u>
USSR	Hungary	1,000
USSR	Poland	200
Rumania	Czechoslovakia (via USSR)	1,000 to 2,000
Rumania	Bulgaria	300 to 400

After 1965 the USSR will assume the major role as power supplier. Of the 20 billion kilowatt-hours (kwh) planned to be exported from the USSR in 1980, 4/ 12 billion kwh are to go to Hungary to cover 25 percent of the country's total requirements for consumption of electric power. Two billion to 3 billion additional kwh are to go to Bulgaria, and the remainder to other countries. 5/

The economic benefits of unification accrue principally to the consuming countries. Soviet planners claim that the emergency reserve of the unified system in 1965 will be 550 megawatts (mw) less than would have been required in the nonunified systems. In addition, the integration of the individual power systems will permit the network to cover the peak loads that occur at different times, thereby reducing the amount of reserve capacity which would otherwise have to be available in the separate power systems. It has been predicted that the integration of the East European power systems will reduce by 650 mw the amount of generating capacity needed to cover peak loads in the systems. 6/ The total saving -- from reduction of emergency reserves and peak loads -- of 1,200 mw in required capacity will amount to about 8 percent of the capacity to be added in the area of the unified system by the end of 1965. Another benefit to the unified system is that larger, more efficient generating units can be utilized than in the power systems of the individual countries, thus lowering the cost of generating power.

The members of CEMA at a meeting in Moscow on 25 July 1962 took another step in the gradual integration of the Soviet Bloc

countries by agreeing to the establishment in Prague of a Central Dispatch Administration, 7/ which will take up its duties on 1 January 1963. 8/ Prague was chosen as the location of the dispatcher's office because the centrally located 400-kv line through Czechoslovakia will be the central transmission line of the unified electric power system, having direct connections with all member countries except Bulgaria. A central power dispatching system, working through direct telephone connections as well as through automatic remote control circuits, determines the amounts of electric power to be generated by the major powerplants in the system, controls the movements of large amounts of electric power along transmission lines, and rations electric power among large consumers when necessary. The central dispatcher of the unified electric power system thus would have a large degree of operational control over the power supply to the East European countries. Physical control over the system, however, can be maintained by the USSR because the main transmission lines feeding electric power into the network will originate in or pass through the USSR.

The director of the Central Dispatch Administration will be responsible to a council, consisting of representatives from all the participating countries, which will meet at least once a year in order to oversee the operations of the Administration. 8/ In the future the council also may act as a technical clearing house and coordinator for the development of the power systems of the CEMA countries and may carry out some central planning. 9/



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